WHAT IS CLAIMED IS:

1. A method for culling occluded objects from an image being rendered into a frame buffer, the method comprising the steps, perfumed by a host processor of:

constructing a coarse Z-buffer, the coarse Z-buffer subdivided into a series of tiles, each tile having an associated depth value;

updating the depth values of the coarse Z-buffer using Z information from the frame buffer; and

using the depth values to selectively discard objects from the image being rendered.

2. A method as recited in claim 1 where in the step of updating the depth values is performed synchronously as information in the frame buffer changes.

3. A method as recited in claim 1 where in the step of updating the ~~depth values is performed asynchronously.~~

4. A method as recited in claim 1 wherein the step of using the depth values to selectively discard objects further comprises the steps of:

constructing a surrogate volume for an object; and

comparing the nearest Z-value of the surrogate volume to the depth value of a tile that includes the surrogate volume.

5. A method as recited in claim 4 further comprising the step of transforming the surrogate volume from object space to eye space.

6. A method as recited in claim 1 wherein the step of using the depth values to selectively discard objects further comprises the steps of:

constructing a surrogate volume for an object; and

retrieving the greatest depth value from the set of tiles that are spanned by the surrogate volume; and

comparing the nearest Z-value of the surrogate volume to the retrieved depth value.

7. A method as recited in claim 6 further comprising the step of transforming the surrogate volume from object space to eye space.

8. A method as recited in claim 1 further comprising the steps of:

constructing a lower resolution coarse Z-buffer, the lower resolution coarse Z-buffer subdivided into a series of tiles, each tile having an associated depth value; and

updating the depth values of the lower resolution coarse Z-buffer using Z information from the frame buffer.

9. A method as recited in claim 8 wherein each tile in the lower resolution coarse Z-buffer covers the same screen area as each tile in the coarse Z-buffer.

10. A method as recited in claim 9 wherein the tiles in the lower resolution coarse Z-buffer are overlapping.